

to study them during working hours, so I herewith return to your office by messenger the frame you so kindly sent me and hope you will discontinue sending the maps.'"

G. N. Salisbury, Section Director, Seattle, Wash., reports he completed the course of fourteen lectures before the State University Summer School on August 2; conducted a class in practical meteorology at the State University, giving twenty lessons, lectures, quiz, and laboratory work between October 9, 1907, and January 24, 1908; a lecture before the Young People's Science Meeting February 6, 1908; visits from local classes February 8, 1908.

Charles Stewart, Local Forecaster, Spokane, Wash., reports a visit from local classes May 13.

Wm. G. Burns, Section Director, Springfield, Ill., reports an address at Whitehall, Ill., before the Teachers' Institute, July 26, 1907; at Lincoln, Ill., February 27, 1908, and Springfield, Ill., March 3, 1908.

N. R. Taylor, Local Forecaster, Springfield, Mo., reports visits from local classes January 28 and 29; February 20, 21, and 22.

R. H. Sullivan, Local Forecaster, Wichita, Kans., reports an address before the Sedgwick County Horticultural Society March 5, and before the Plymouth Brotherhood on May 11, which was repeated May 20.

Charles A. Hyle, Observer, Yellowstone Park, Wyo., reports a visit on August 15 by the summer class of the Montana School of Mines, Butte, Mont.

#### THE DIURNAL VARIATION OF THE RAINFALL AT KINGSTON, JAMAICA.

By MAXWELL HALL, Government Meteorologist, Chapelton, Jamaica.

[Reprinted from Jamaica Weather Report, October, 1908.]

The United States meteorological station in Kingston is provided with a self-registering rain-gage which measures the amount of rain fallen at intervals of time, so that the diurnal variation will be very accurately known in the course of a few years.

But the diurnal variation is now required for certain physical problems, it occurred to me that by reducing the notes made by Mr. Robert Johnston, in the large Kingston registers between 1881 and 1896, inclusive, a close approximation would be obtained.

The registers give the amount of rain fallen during any day, and the notes give the time at which the rain fell, or its duration if prolonged; and their reduction was made under my supervision by Mr. L. Maxwell Hall.

The mode of reduction was to ascertain the total amount of rain recorded for each hour for each month; and then various groups were formed to show that the characteristics were consistent thruout the whole series, and not dependent on seasons, or any particular year or years.

The following table gives the amount of rainfall for the sixteen years for each hour for spring and summer, or from March to August, inclusive; for autumn and winter, or from September to February, inclusive; and for the whole year. The last column gives the percentage for each hour for the whole series.

From this table we see that the rainfall is least at midnight, that it increases more or less regularly to 3 and 4 p. m., that there is a very small maximum at 2 and 3 a. m.; another small maximum at 7 and 8 a. m. and then the large maximum at 3 and 4 p. m.; after which it decreases more or less regularly to the minimum at midnight.

Table showing the diurnal variation of the rainfall at Kingston, Jamaica.

Hour.	Spring and summer.	Autumn and winter.	Whole year.	
	Inches.	Inches.	Inches.	%
1 a. m.	6.85	4.85	11.70	2.3
2 a. m.	10.63	8.05	18.68	3.6
3 a. m.	9.32	8.62	17.94	3.5
4 a. m.	8.74	8.22	16.96	3.3
5 a. m.	8.94	7.65	16.59	3.3
6 a. m.	10.53	8.00	18.53	3.6
7 a. m.	12.63	11.27	23.90	4.7
8 a. m.	12.92	11.03	23.95	4.7
9 a. m.	10.89	10.54	21.43	4.2
10 a. m.	10.09	8.63	18.72	3.6
11 a. m.	9.95	7.31	17.26	3.2
Noon.	11.61	11.30	22.91	4.5
1 p. m.	16.09	13.68	29.77	5.8
2 p. m.	18.55	16.52	35.07	6.8
3 p. m.	24.57	18.63	43.20	8.5
4 p. m.	26.60	17.20	43.80	8.6
5 p. m.	18.83	12.60	31.33	6.1
6 p. m.	18.12	10.49	28.61	4.6
7 p. m.	11.05	7.95	19.00	3.7
8 p. m.	8.28	6.33	14.61	2.8
9 p. m.	6.41	5.38	11.79	2.3
10 p. m.	6.04	4.42	10.46	2.1
11 p. m.	5.55	6.19	11.74	2.3
Midnight	5.64	3.82	9.46	1.9
Sums	283.73	228.58	512.31	100.0

These characteristics permeate the whole series; month after month, year after year, the same features are more or less strongly marked; and they are also reproduced by the self-registering rain-gage for the spring and summer of the present year (1908).

It is therefore quite clear that we are dealing with important physical phenomena, tho their explanation may be hard to find.

#### THE TEACHER AND THE STUDENT.

The good work that is done in meteorology is often accomplished by young students working under the experienced guidance of some university professor. The theses submitted by students for the attainment of the higher collegiate degrees are very apt to give summaries of our present knowledge from some new points of view and to suggest or even demonstrate some advance in knowledge.

It is thru his scholars, by giving them his best ideas and guiding them as they work, that a teacher may hope to accomplish for his special branch of science far more than he could do single-handed. The best teachers hold the future of science in their hands. Their own broad views and high aspirations must be imprest upon all with whom they come in contact, and especially must young students be inspired to enthusiasm and devotion. The teacher is not to dwell too deeply on his own trials, to lose patience, or to be discouraged by overwork, poor laboratories, meager libraries, and want of sympathy; he must overcome these by his own force of character. He is expected to be optimistic in the midst of discouragements. There are always obstacles in the way of success, he who yields and settles down to merely getting a living out of his professorship, represents the lowest grade of the university professor. He who lets every one know his higher aims and hopes, and keeps his students working up toward the researches that he would himself carry out if possible, will surely find enthusiastic helpers. The men who put their science first and their troubles and difficulties last, are those whom the world admires and loves to copy, and who inspire the world.—C. A.